

FORCE MAIN REQUIREMENTS CHECKLIST

Owner' Name: _____

Engineer's Name: _____

Site Address: _____

Date: _____

The following checklist is not all-inclusive, but is generally representative of the requirements of the Marlborough Site Plan Review and Approval Ordinance (SPR&A) and the Planning Board's Rules and Regulations (S/D R&R). In all cases, you should use the checklist in conjunction with the SPR&A and the S/D R&R as appropriate.

- No force main shall pump directly into the City system. All force mains shall discharge into a precast sewer manhole to be located on the owner's side of the property line. The effluent shall then flow by gravity into a City sewer manhole.
- Any connection to a City sewer manhole shall be cored and fitted with a rubber boot
- A Street Opening Permit shall be obtained prior to any work within the City right-of-way
- Any connection to a City manhole or work within the City right-of-way shall conform to City requirements and shall be inspected prior to backfill
- A cleanout consisting of a tee with a threaded cap shall be installed on the main within the manhole (where the main changes from force to gravity) to allow for the main to be rodded
- Minimum residential service size shall be 2" schedule 40 PVC
- Minimum commercial service size shall be 4" ductile iron
- Minimum cover over force main shall be 5 feet
- All force mains shall be surrounded by 12" envelope of ¾" crushed stone
- Check dams shall be placed every 100 feet along force main
- Metallic warning tape shall be installed over the main within the trench
- Force mains shall be separated from other utilities by at least 5' horizontally
- Force mains shall be separated from water lines by at least 10' horizontally
- Pump chamber shall be sized to store 24 hours worth of effluent (minimum 1000 gallon capacity) and be made of precast concrete (or approved equal) capable of withstanding H2O loading
- The bottom of the pump chamber shall be sloped toward pump
- Pumps shall be sized to accommodate flows-Provide pump curves and calculations
- Duplex pumps are recommended
- An in-line union shall be placed in the discharge pipe near the pump to allow for the pump to be removed
- An in-line backflow preventer (with an external counterweight on Commercial sites) shall be installed on the discharge pipe to prevent effluent from backing up into the chamber
- An iron pipe shutoff valve (w/o drain) shall be installed on the discharge pipe (after the backflow preventer) to allow for the repair of pump
- The shutoff valve and backflow preventer shall be installed within a separate valve chamber where possible
- If separate valve chamber can not be provided, the backflow preventer shall be installed within the pump chamber and the shutoff outside the chamber with a riser box and stem
- All pressurized pipes within the chamber shall be restrained from movement with stainless steel straps affixed to the chamber
- Alarm systems indicating pump failure shall be installed on all pumps
- Residential systems shall require audible warning on alarm systems affixed to the house
- Commercial systems shall require audible and visual warnings on alarm systems affixed to the building at a location monitored 24 hours a day
- Run time meters shall be installed on all commercial systems
- All pumps shall have an anti-siphon prime
- Provide at least the following details:
 - Trench detail for force main
 - Trench detail for gravity mains
 - Sewer manhole detail
 - Pump chamber detail
 - Profile of entire system
- Force main shall be tested by filling with water and pressurizing main to 100psi for one hour. Pressure test shall be performed by an independent testing company